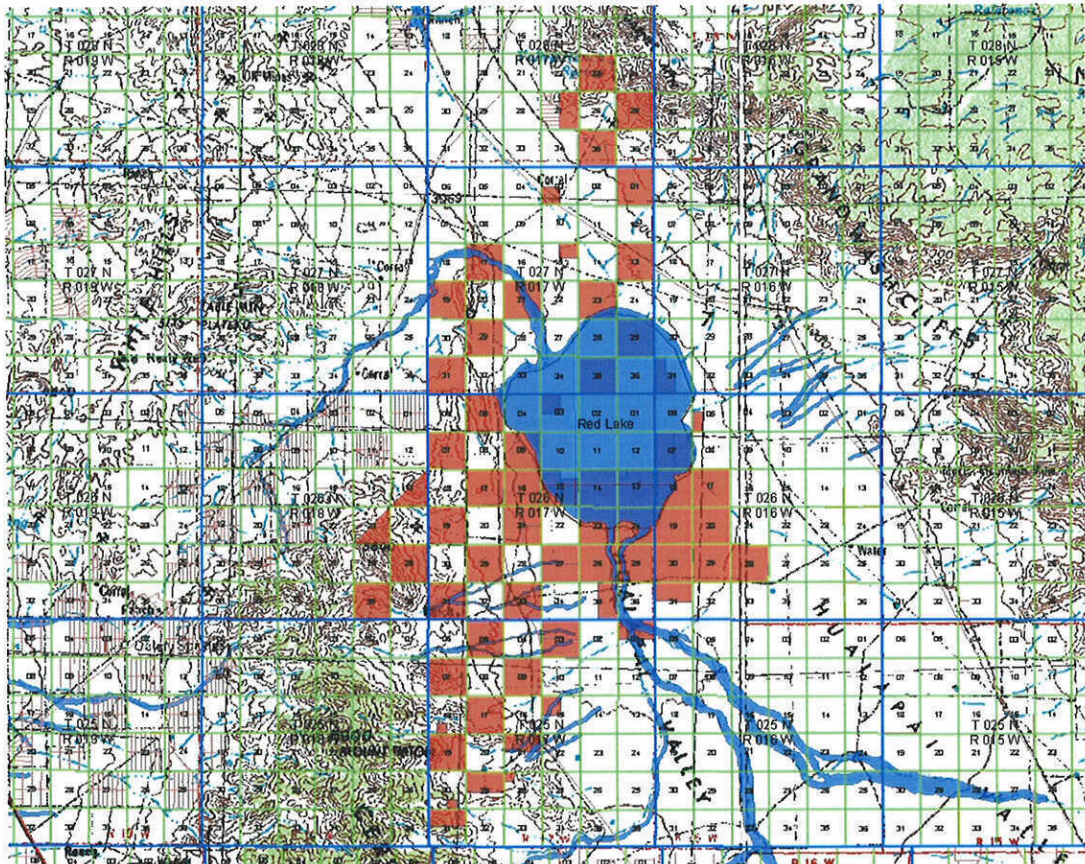


the south and southeast towards the City of Kingman and the Music Mountains. The westernmost portion of the site is located in the mountains. The rangeland includes a few corrals and water tanks, but is otherwise undeveloped. Several sand roads serve the area. No utility systems, other than overhead power transmission lines, are known to be on the site. The location of the site is shown below.



#### 4. Climatic Conditions

The area climate includes relatively mild winters with daytime highs between 40 and 50 degrees F with over 280 frost free days per year. Summertime has daytime highs that range between 95 to 100 degrees F with low humidity. About one-half of the annual rainfall comes during the winter months and the balance comes from sporadic summer thundershowers.

## 5. Topography

Local topography varies from lows of approximately 3,000 ft. MSL along the southern and central portions of the site to approximately 5,000 ft. MSL in the Cerbat and White Mountains along the westerly site edge. Site drainage is generally to the north into the Red Lake Dry Lake (ephemeral) via



Hualapai Valley Wash and a network of unnamed washes and surface drainage channels.

## **6. Geology and Soils**

Based on the USDA Soil Conservation Service mapping for the area, the dominant soil type in the site area is most likely the Buckle bar sandy loam. This is a deep to moderately deep, well to moderately well drained, coarse grained soil with moderate hydraulic conductivity and a typical depth to the water table of greater than six feet. These soils reportedly do not meet the requirements for hydric soil.

The site and surrounding area are underlain by precambrian age metamorphic rocks, reportedly orthogenesis and paragneiss. Due to the considerable expanse of the site and variation in the topography of the site from west to west, depth to bedrock would be expected to vary greatly beneath the site.

## **7. Hydrogeology**

According to the Arizona Department of Water Resources (ADWR), basin and range aquifers are generally the principal sources of ground water in the site area. These aquifers are present in alluvium-filled basins interspersed between ranges of northwest to southwest trending mountains in the northwest portion of Arizona. The site is located within the Hualapai Valley basin.

The Hualapai Valley basin covers an area of approximately 1,820 square miles. The basin is bounded on the west by the Cerbat and White Mountains, on the east by the Grand Wash Cliffs and Music Mountains, on the south by the Peacock and Hualapai Mountains, and on the north by Lake Mead National Recreation Area.

The Hualapai Valley basin-fill sediments reportedly range to as much as 6,400 feet thick and have been divided into three separate units: a younger alluvium, an intermediate alluvium, and an older alluvium.

The younger alluvium includes streambed deposits in Hualapai Valley and in various mountain canyons. The unit seldom exceeds 50 feet in thickness and is composed of silt to gravel-sized particles. The younger alluvium yields small amounts of water to stock and domestic wells in mountain canyons. Local rock formations are generally non-water bearing, although fractured and weathered zones in the rocks do provide some water to low-yield wells and numerous springs and seeps.

In the central part of the valley, the younger and intermediate alluviums are above the water table, and therefore, dry. The intermediate alluvium is a dependable aquifer only along the valley margins where the unit intersects the water table. Well yields from the intermediate alluvium range up to 500 gallons per minute. The intermediate alluvium is made up of coarse-grained sands, silts, and clays.

The older alluvium is the main aquifer in the Hualapai Valley basin. Volcanic rocks are reportedly interbedded with the older alluvium in the southern part of Hualapai Valley and form a secondary system. The older alluvium can store and transmit large amounts of water; well yields up to 1,500 gallons per minute have been reported. Depth to water ranges from 500 to 900 feet below land surface in the central and southern parts of the basin to 300 feet below land surface near Red Lake.

## **8. Site History**

Review of historical information indicates that past site uses were most likely similar or identical to current site uses, except as noted in the following.

The site currently consists almost entirely of open space, apparently used as range land for cattle grazing. The westernmost portion of the site is located in the Cerbat and White Mountains. The rangeland includes a few corrals and water tanks but is otherwise undeveloped. The area is served by several sand roads. It is most likely these areas have always generally been used in this fashion.

## **B. Proposed Master Plan (IMA to input)**

Red Lake will feature a new university themed community with plentiful parks, recreation and open space uses, including (x) golf courses.

## **C. Goals of Red Lake Master Planned Community**

General Plan Goal 10 – To retain the beauty, the natural setting and resources, and the rural character of the County, while providing opportunities for coordinated growth and development.

Red Lake Master Planned Community will meet this goal by maintaining as many natural features on the site as possible while providing new housing options for the general community and active adults along with additional shopping and employment opportunities. In particular, Rhodes Homes will liaison with the Arizona Land Department regarding state lands that abut private lands to determine any buffering measures that the state may desire to preserve habitats on state trust lands.